

Development of Kinship Scale: Sample of Health Personnel

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Abstract

In this study it is aimed to form a kinship scale in Turkish culture. Kinship scale is developed by consulting to authorities-specialists in the field. Pilot study is applied to homogenous 50 people. Then the research is conducted in Elazığ-Turkey with 397 health personnell working in 2 different hospitals. The scale is tested according to reliability (item reliability and construct reliability) and validity (convergent validity and discriminant validity). In the study, convergent validity is tested by analysing correlation with resemble scales. For this purpose, correlation between kinship scale and 3 scales with resemble concepts(societal culture-collectivism, loneliness and life satisfaction) is analysed. As a result it is found that there is positive and significant correlation between kinship and life-satisfaction and collectivism; on the other hand there is significant negative correlation between kinship and loneliness. At the end of the study a reliable and valid kinship scale is developed with 2 dimensions including 9 questions in each.

Key words: Kinship (Relationship); Societal Culture-Collectivism; Life Satisfaction; Loneliness

Nepotism and Kinship

“The term nepotism is derived from the Latin word nepot (nephew)”. Nepotism is interpreted as the employment of relatives in the same organization (Abdalla et al., 1994:60; Araslı et al., 2006; 296-297; Asanakutlu and Avcı, 2010:96). It is a human resource practise that affects all kinds of family and nonfamily organizations and refers to practice of employing relatives. (Vinton, 1998:297-303). Nepotism is defined as an individual’s gain of recruitment, promotion, provision of more favorable working conditions and similar benefits independent from their knowledge, abilities, skills, educational level, and experience.

Their kinship ties are the key factors to obtain those issues (Keleş et al., 2011:10). Thus, nepotism refers to the hiring and advancement of unqualified or underqualified relatives just depending on their relationship with an employee, officer or shareholder in the firm (Wong and Kleiner, 1994:10). Nepotism is to give advantages to only relatives at every level for every position (Aydoğan, 2012:4577). Employing or promoting a person because of his/her kinship regardless of his/her abilities, success, knowledge, educational level etc. is named as nepotism (Özler and Büyükarıslan, 2011:278).

Kinship is a common concept in cultural or social anthropology. It is informed by independent factors such as economic situation, political structure and so on. It takes input from evolutionary biology, evolved psychology, economics and decision theory. All of these is used to explain commonalities and differences studied by cultural anthropologists (Boyer, 2003). The kinship system, the economic system and the religious system are closely interdependent that they can not be understood in isolation from one another. For example economic success can create and promote family thought. Family and business mutually constitutive (Stewart&Miner, 2011).

Advantages Of Nepotism In Organizations

Even if general point of view about the nepotism is negative, various researchers indicate some advantages of nepotism. Ford and McLaughlin (1986) states the advantages of nepotism in general categories as follows: the desirability of working in a warm, family-type environment, improved communications, consistency and smoothness of executive transaction, and acceptance of a family-led organization by customers and the community.

Dailey and Reuschling (1980) mention about the following advantages of the nepotism:

- For the small family-owned organizations nepotism is good since it provides an efficient way to identify dedicated personnel to staff.
- Allowing nepotism makes consideration of all potential employees who might be effective contributors to the organization rather than arbitrarily excluding a large pool of potential employees simply because they are related by blood or marriage to an existing employee.
- Nepotism creates a positive family-oriented environment which increase morale and job satisfaction for all employees-relatives and nonrelatives
- According to Barmash (1986) nepotism has the following advantages:
- Nepotism provides at least a semi-balance of sustained entrepreneurialism in a time of corporate takeovers.
- Nepotism provides a separate structure in a company, around which non-family employees can advance.
- Nepotism constitute a family competition that in its finest moments insures to the benefit of the company.
- Nepotism keeps difficult young generations off the streets.
- Nepotism keeps companies alive. If succeeding generations are brought into oneness, they will develop a pride of ownership and family ties.

Nepotism is an alternative way to attract and retain a relatively cheap, loyal, and committed work force. Family members are a cheap and available labor source for the young entrepreneurial firms seeking to get going. Consequently, demand occurs for those employees (Abdalla et al., 1998: 555-556). Ewing (1965) stated that many of the surveyed more than 2700 respondents from top management, upper middle management, lower middle management, nonmanagement personnel and professionals, were impressed by certain advantages of having relatives in administration.

They were aware that in the managements of many companies, large or small, there have been brothers, fathers, sons, in-laws, uncles and nephews (Ewing, 1965: 23-24).

Disadvantages of Nepotism In Organizations

Kiechel (1984) states that the practice of nepotism is widespread, sometimes good, but mostly bad. He point out the disadvantages from nepotee's side and says that it is harder on the nepotee than anyone else. The most obvious conflict occurs when management hires or promotes an unqualified family member. Nepotees may be sacrificed to other forms of moral depression. Ichniowski (1988) has identified primary disadvantages of nepotism as follows:

- Nepotism puts huge and unfair pressure on the "nepot". It can be stressful burden for the relative to be unsure if organizational rewards were earned according to his/her performance or only because of his/her identity.
- Nepotism decrease the morale of those people who supervise relatives of high-level executives. They may feel that promotions and rewards are given unjustifiably to a relative.
- Nepotism exposes the organization to family conflicts such as sibling competition over managerial succession and improper combinations of business with corporate decision-making processes.
- According to Ford and McLaughlin (1986), the disadvantages of nepotism can be grouped into a few areas as follows:
- Nepotism has a negative impact on employee morale.
- Nepotism cause tendency of family affairs to get mixed up with business decisions.
- People may confuse and can not be sure if they were hired, promoted, or given a raise on the basis of their actual performance or kinship.

Toy et al. (1988) also remark the family fights and sibling rivalries at the organization. Many of hardworking and talented managers will quit their job if others who share a last name with the boss pass over them. Nepotism will block their advancement and as a result, ambitious professional managers will be discouraged from joining such firms or companies. Nepotism is the practice of showing favoritism to relatives and close friends. If a manager promotes a relative strictly because of the relationship between them it would raise a number of moral concerns, chief among them disregard of managerial responsibilities to the organization and of fairness to other employees (Provis, 2004, p.47).

Nepotism practices directly influence employees' perception and despite importance of success, cause them to be indifferent toward their success on the job. They withdraw psychologically and concentrate on daily works since "nepotism" blocked their advancement.(Pisheh, 2011, p.13224). According to Kwon (2006), favoritism is one of the most important sources of organizational conflict and stress. It is also an outcome of politics and power struggles within organizations. In the end, favoritism leads to inefficient decisions and the loss of motivation and productivity.

Where Nepotism is Seen?

Family-owned businesses appear to be highly subject to nepotistic practices. In order to remain as a "family business", firms mostly need to employ family members to occupy managerial positions. Blood bonds existing among family members often lead them to act in favor of those who are part of the kinship. Nevertheless, favoritism occurs within non-family organizations (Ceja and Tapias, 2009:13).

There are nepotist tendencies in family companies because they think that rising generation will carry out the institution's vision and they will benefit from advantages of knowing the institution more than anyone else (Özler et al., 2007, 438-439). It is considered that appointing family members to managerial positions will stabilize the company and prevent conflict of interest between ownership and management. Encouraging next generations to take over the firm, may prevent isolation of individuals from family system (Asanakutlu and Avcı, 2010, p.97)

Nepotism is generally seen in the societies that traditional ties and relations are strong (Aktan 2001,57).

Also Araslı& Tümer (2008) assert that nepotism is dominant in smaller firms in underdeveloped countries. The degree of being individualist or collectivist society affects nepotism. The appropriate composition of individualism and collectivism in the society is important for the balance and health of society. In the western societies estrangement is seen because of excessive individualist structure. On the other hand excessive collectivist structure prevent the forming of non-governmental organizations; while the sharp collectivist structure forms estrangement in the eastern societies. (Bayhan, 2002)

Cultural differences between HRMs affect the perception toward nepotism. HRMs in developed and less-developed countries tended to be less positive about advantages of nepotism and more negative about disadvantages of nepotism. (Abdalla, 1998:569).

Methodology

Data collection

The demographic data regarding the participants of the study is shown in Table 1.

Table 1.
Characteristics of the sample

Characteristics	N	%	Characteristics	N	%	Characteristics	N	%
Age			Education Level			Occupation		
18-32	155	39.0	Primary School	29	7.3	Physician	60	15.1
33-47	210	52.9	Secondary School	31	7.8	Nurse	66	16.6
48-62	32	8.1	High school	121	30.5	Janitor	141	35.5
Seniority			College Education	96	24.2	Health Technicians	33	8.3
1-8 years	175	44.1	Bachelors Degree	64	16.1	Medical Secretary	47	11.8
9-16 years	161	40.6	Master's Degree	17	4.3	Officer	50	12.6
17-24 years	47	11.8	PhD	20	5.0	Gender		
25-32 years	14	3.5	Medical Expert	19	4.8	Male	192	48.4
Name of The Hospital			Marital Status			Female	205	51.6
A	204	51.4	Married	248	62.5	Income		
B	193	48.6	Single	109	27.5	500-1500 \$	342	86.1
Total	397.	100.0	Other	40	10.1	1500-3000 \$	55	13.9

A: Firat University Education and Research Hospital, B: Elazığ Education and Research Hospital

The research is conducted in 2 biggest hospital in Elazığ-Turkey. The sample of the study is 397 people working in these hospitals, namely Firat University Education and Research Hospital(51,4 %), Elazığ Education and Research Hospital(48,6%).

The majority of the participants are aged between 33-47(52.9%), women(51.6%), married (%62.5), have income of 500-1500 \$ (86.1%) and working in the hospital 1-8 years (44.1%). Arithmetic mean of the age is 35.51, working year is 10.08 and income is 500\$.

Table 2.
Characteristics of relationship

Characteristics	N	%	Characteristics	N	%	Characteristics	N	%
Living in the same city with relatives			Importance of relative marriage to continue relative relations			Facility of face to face relation with relatives		
Live far away from relatives	90	22.7	No	229	57.7	No	203	51.1
Live in the same city with some of the relatives	94	23.7	Maybe	141	35.5	Yes	194	48.9
Live in the same city with most of the relatives	213	53.7	Yes	27	6.8	Existence of a strong relative to support the person in the working life among the relatives		
The most used communication method with relatives			Working in the same institution with the relatives			No	285	71.8
Visit	149	37.5	No	287	72.3	Yes	112	28.2
Telephone	219	55.2	Yes	110	27.7	Living various problems with relatives		
Other	29	7.3	Level of Loneliness			No	276	69.5
Total	397	100.0	20-34 (low level loneliness)	10	2.5	Yes	121	30.5
			35-48 (middle level loneliness)	99	24.9	Total	397	100.0
			49-80 (high level loneliness)	288	72.5			

As seen in Table 2, participants are asked about their view for relatives and relations. It is noted that, most of the participants live in the same city with their relatives(53.7%), use telephone as a communication tool(55.2%), most of them believe that relative marriage is not important for the relations(%57.7), major part of the participants don't work in the same institution with her/his relatives(%72.3), don't have critical problems with her/his relatives(%69.5), don't have weighty relative to support he/she in the working life (%71.8) and 51,1% have face to face relation with his/her relatives.

Also open-ended questions are asked to the participants. They are requested to differentiate and identify close and non-close relatives. They replied the question "mother, father, sister, brother, grand-father, grand-mother, uncle, aunt" as close relatives; "cousin, nephew, niece and secondary relatives" as non-close relatives.

In the study loneliness degree is seen high(72,5%). It is an unexpected result since Turkish culture reflects collectivist culture.

But in this study participants are working people, who are very busy, stressful and making a critical job in the health sector. So they may feel lonely in this fast and rush hours.

Data analysis methods

Various statistical analysis are applied in the study. SPSS 10.0 is used to determine the means, standard deviations, descriptive statistics, correlations, exploratory confirmatory factor analysis and cronbach alpha reliability coefficients. In addition, Lisrel 8.51 program was used to do the confirmatory factor analysis of four scales.

Measures

In the study four different scales are used. They are: "Relationship Scale (RS)", "Societal Culture-collectivism", "The Satisfaction With Life Scale (SWLS)" and "UCLA Loneliness Scale".

Relationship Scale (RS)

Relationship Scale (RS), is composed of Relationship Attachment (RA) and Relationship Responsibility (RR). Questionnaire is constituted by the authors and consulted to the specialists in this field. There are 18 questions in the questionnaire. Firstly it is applied to three different groups of them one has near profiles with the sample group. So an exploratory analysis is conducted to test the comprehensibility, reliability and validity of the questionnaire. After that a pilot study is conducted with 50 people working in the hospital in Isparta-Turkey. Cronbach alpha is found as .94. After the pilot study no change is needed about the items. Five point likert scale (5:totally agree; 1:totally disagree) is used and 9 questions for relationship attachment and 9 questions for relationship responsibility developed.

The Satisfaction With Life Scale (SWLS)

The Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) composed of 5 questions and developed to assess the whole life satisfaction of the person. (Diener et al., 1985, pp. 71-72). Five point likert scale (5:totally agree; 1:totally disagree) is used. Diener et al. (1985) reported a 2-month test-retest correlation coefficient of .82 and an alpha coefficient of .87 for a sample of 176 undergraduates from the University of Illinois. Reliability and validity test of SWLS for Turkish is done by Köker (1991) and Yetim (1991,1993). Köker (1991) reported 3 weeks-month test-retest correlation coefficient as .85. Yetim (1991) reported **split-half value as .75 and Kuder Richardson-20 value as .78. Also Yetim (1993) found Cronbach Alpha as .86.** This scale is used both in the world and Turkey for many studies and has high reliability and validity. (Ex: Pavot and Diener, 1993; Tucker et. al., 2006; Pavot and Diener, 2008; Gümüş, 2006; Çeçen, 2007; Deniz, Dilmaç ve Arıcağ, 2009).

UCLA Loneliness Scale

UCLA Loneliness Scale is originally developed by Russell and friends (1978), then Russell, Peplau ve Cutrona (1980) confirmed its validity. This scale is self-assessment about loneliness with four point likert scale. 10 positive statements (1, 4, 5, 6, 9, 10, 15, 16, 19 ve 20.) and 10 negative statements (2, 3, 7, 8, 11, 12, 13, 14, 17 ve 18. ifadeler) included in the scale. For the positive statements "4=never live", "3=seldom live", "2= sometimes live", "1=frequently live" and for the negative statements "1=never live", "2= seldom live", "3= sometimes live", "4=frequently live" point is given. The maximum point of the scale 80 and the minimum is 20. If one person gets point in the range "20-34=low degree", "35-38=middle degree", "49 and upper=high degree" loneliness occur.

If the total score is low there is low loneliness, if the score goes higher loneliness increase. Originally, cronbach alpha is .94 but then Russell et al.(1978) revised it as .96 (Russell, Peplau ve Cutrona, 1980: 474). UCLA is translated into Turkish by Demir (1989) with its 20 items and cronbach alpha is .96. 5-weeks test-retest correlation coefficient is found as .94. In the world and also in Turkey UCLA is accepted as a reliable and valid scale(Ex: Pretorius, 1993; McWhirter, 1990; Swami, 2009; Erözkan, 2009; Atak, 2009).

Societal Culture-Collectivism Scale

In the study, questions related with collectivism is adapted from “Specialities of Socio-Cultural Environment” questionnaire which is developed by Aycaan and Kanungo (2000) to compare different countries in which there is also Turkey. In the study there are 4 questions about collectivism. 5 point Likert scale (1:Totally Disagree; 5:Totally Agree) is used. The questionnaire is found as valid in Turkish researches(Basım, 1998; Aycaan). To assess the reliability of Specialities of Socio-Cultural Environment Cronbach Alpha is calculated as .82. (Erdem, 2003:115).

Analysis and Results

Measurement Analysis

Table 3. Means, Standard Deviations and Correlation Values in Relation to Relationship

Variables	Means	Standard Deviations	1	2	3	4	5
1. Relationship Attachment (RA)	3.12	1.06					
2. Relationship Responsibility (RR)	3.12	1.00	.661**				
3. Relationship Scale (RS)	3.17	.98	.889**	.842**			
4. The Satisfaction With Life Scale (SWLS)	2.94	.93	.281**	.243**	.272**		
5. UCLA Loneliness	2.70	.51	-.206**	-.263**	-.247**	-.200**	
6. Societal culture-collectivism	3.31	.90	.385**	.402**	.424**	.256**	.262**

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

The data were analyzed using the statistical software SPSS 10.0 and Lisrel 8.51. In order to examine the content validity of those measures, we performed confirmatory factor analysis (CFA) with LISREL VIII (Joreskog and Sorbom, 1996) using a sample of 397 personnel working in hospitals in Elazığ province of Turkey.

The findings that are related to the validity and reliability studies of Relationship, Societal Culture-collectivism, The Satisfaction With Life Scale (SWLS) and UCLA Loneliness Scale scales are given below. First of all, means, standard deviations, and correlations of the factors in the scale were identified. In the second phase, reliability analysis of the scales were evaluated. In the third phase, the validity of the scales was examined with confirmatory factor analysis. Since Relationship scale is newly developed firstly exploratory factor analysis is performed then confirmatory factor analysis is conducted.

Validity and Reliability Studies of Relationship

The means of the data gathered in relation to Relationship their standard deviations and correlations are given in Table 3.

The mean score of Relationship Scale (RS) is 3.17. There is high correlation between Relationship Scale (RS) and Relative Attachment (RA) ($r = .889$). Also the correlation between Relationship Scale (RS) and Relative Responsibility (RR) ($r = .842$) is high. It is found that there is positive correlation ($r = .272$) between The Satisfaction With Life Scale (SWLS) and Relationship Scale (RS). There is significant positive correlation between SWLS and RA ($r = .281$) and RR ($r = .243$).

On the other hand there is significant negative correlation between UCLA Loneliness Scale and Relationship Scale (RS) ($r = -.247$). There is significant negative correlation between UCLA and RA ($r = -.206$) and ($r = -.263$). Also there is significant negative correlation between UCLA and SWLS ($r = -.200$) Societal culture-collectivism has significant positive correlation with Relationship Scale (RS) ($r = .424$), with RA ($r = .4385$), with RR ($r = .402$), with SWLS ($r = .256$), with UCLA ($r = .262$).

Table 4 Items and item loadings from exploratory and confirmatory factor analysis

Items	(EFA)	(EFA)	(CFA)	(CFA) ₁	(CFA) ₂	Item reliability	CR	AVE	(CFA) ₃ *	CR*	AVE*
	Factor 1	Factor 2	Standardized Loadings(S.I.)	S.I.	S.I.				S.I.		
RS							.90	.51		.91	.59
RA							.88	.60		.88	.60
1.	1.012		.70 ^a								
2.	.929	.388	.76	.76	.77	.59			.77		
3.	.976		.77	.76	.76	.58			.76		
4.	.856	.390	.69 ^a								
5.	.773		.68 ^a								
6.	.777	.516	.78	.77	.77	.59			.77		
7.	.803	.475	.79	.80	.80	.64			.80		
8.	.883	.446	.76	.77	.77	.59			.77		
9.	.779	.417	.71	.69 ^a							
RR							.75	.43*		.80	.57
10.	.483	.667	.74	.73	.75	.56			.75		
11.	.411	.726	.70 ^a								
12.	.472	.764	.75	.77	.78	.61			.78		
13.	.412	.681	.72	.74	.74	.55			.74		
14.		.915	.69 ^a								
15.		.907	.72	.70 ^a							
16.	.353	.864	.76	.75	.71	.50 ^b					
17.	.443	.590	.59 ^a								
18.	.443	.614	.57 ^a								
Eigenvalue	8.26	6.68									
% variance	31.60	25.53									
Mean	27.16	28.29									
Standard deviation	8.63	7.64									

Note: EFA. Exploratory factor analysis. Standardized item loadings reported for CFA. $p < .001$ for all loadings. $p < .01$, Standardized item loadings reliability $< .40$. $p < .05$,

^a Item reliability $< .70$. (EFA)

Goodness-of-Fit Statistics: $\chi^2/df = 50.86/26 = 1.396$, NNFI=.98, CFI=.99, AGFI=.95, GFI=.97, IFI=.99, RMSEA=.049.

Goodness-of-Fit Statistics*: $\chi^2/df = 44.48/19 = 2.34$, NNFI=.98, CFI=.98, AGFI=.95, GFI=.97, IFI=.98, RMSEA=.058.

CR: Construct reliability.

^a Construct reliability = $(\sum \text{Standardized loadings})^2 / [(\sum \text{Standardized loadings})^2 + \sum g]$.

^b Average variance extracted (AVE) = $\sum (\text{Standardized loadings}^2) / [\sum (\text{standardized loadings}^2) + \sum g]$, where g is the measurement error.

^b AVE $< .50$,

It was dropped To analyse construct validity of “Relationship Scale” (RS), first of all exploratory factor analysis is performed. We conducted an exploratory factor analysis (principal axis factoring) with an varimax rotation, allowing for correlations among factors. Considering the whole scale with 18 items, the scale’s construct demonstrates 2 factors.

Factor loadings of 18 items changes between 1.02 and 0.667. Two factors in the scale explains 57% of the variance. Only items that demonstrated a factor loading greater than 0.40 (Hinkin, 1995). In Exploratory factor analysis, factor loads are over .50. As a next step “confirmatory factor analysis” CFA is conducted and a construct obtained with two factors. Factor loadings relating to each factor are given in Table 4. All the factor loadings are over .55. Since the factor loadings should be over .70 to be acceptable(Nusair and Hua, 2010), we considered the data over .70 as acceptable.

In the first step of CFA items 1, 4, 5, 11, 14, 17. and 18 which are lower than .70 and gives correction index are deleted and CFA is renewed. In the second step 9 and 15 th items are deleted and in the last step all items reached over .70 factor loading. So in RA dimension 5 questions and in RR dimension 4 questions, totally 9 questions are obtained for the scale. Then the goodness-of-fit measures were used to assess the overall model fit.

The results of confirmatory factor analysis that is done to test the validity of RS is given in Table 4 in order to accept the validity of a scale statistically, as a result of confirmatory factor analysis, some of the fit indices values are supposed to be acceptable. If χ^2/df is lower or equal to 5 it is accepted as perfect model fit.

It is necessary for the RMSEA value to be below 0.080 but if it is lower than 0.05 and close to 0.00 model fit is considered as perfect.

CFI, AGFI, GFI, IFI, NNFI and values to be over 0.90 due to the most common fit indices values. For CFI 0.85 and upper; for AGFI 0.80 and upper values are acceptable for the model fit. (Jöreskog and Sörbom, 1993; Anderson ve Gerbing, 1984; Sümer, 2000).As shown in Table 4, the overall fit indices for the proposed/based model were acceptable, with $\chi^2/df = 50.86/26 = 1.396$, NNFI=.98, CFI=.99, AGFI=.95, GFI=.97, IFI=.99, RMSEA=.049. All the above fit indices for the initial CFA model indicated an acceptable fit.

After achieving adequate overall fit indices, the measurement model was further evaluated for its reliability and validity. Reliability was tested using item reliability and construct reliability (Fornell & Larcker, 1981; Hair et al., 1998; Akt; Nusair and Hua, 2010: 318).

Item reliability indicates “the amount of variance in an item due to underlying construct rather than to error and can be obtained by squaring the factor loadings”. An item reliability greater than 0.50 is considered as evidence of reliability (Chau, 1997: 324; Akt; Nusair and Hua, 2010: 315). Chin (1998) indicates that the standardized loading for each item should be greater than 0.7 to demonstrate reliability but a value of 0.50 is still acceptable (Akt; Nusair and Hua, 2010: 315; Hui, 2003; Akt; Ayyıldız, Cengiz ve Ustasüleyman, 2006). Also t values should be significant and acceptable. (Hui, 2003; Akt; Ayyıldız, Cengiz ve Ustasüleyman, 2006).

Factor loadings relating to each factor are given in Table 4. All the factor loadings are over .70. In the last version of the scale there is any item reliability score lower than .50. The reliability of the measure included in the model ranged from 0.50 to .64 thus indicating good item reliability. Also t values are acceptable (See. Table 3).

To test the **Construct reliability**(CR) reviewers suggested us to report **composite reliability (CR)** instead of Cronbach-alpha (internal consistency of measures). Composite reliability is like the reliability of a summated scale.

(<http://zencaroline.blogspot.com/2007/06/compositereliability.html>. Accessed:03.09.2010).

Composite reliability (CR), assesses the internal consistency of a measure. Composite reliability is a measure of the overall reliability of a collection of heterogeneous but similar items. Individual item reliability (test the reliability of the items using Cronbach Alpha) vs. composite reliability (of the construct, the latent variable) calculate composite reliability for the latent variables, LISREL does not output the “composite reliability” directly. We have to calculate it by hand (Fornell and Larcker, 1981;<http://zencaroline.blogspot.com/2007/06/compositereliability.html>. Accessed:03.09.2010). Its formulation is as follows:

$$= (\text{sum of standardized loading})^2 / [(\text{sum of standardized loading})^2 + \text{sum of indicator measurement error (the sum of the variance due to random measurement error for each loading-1 minus the square of each loading)}]$$

Table 4 shows the results of item reliability and construct reliability. Construct reliability refers to the degree to which an observed instrument reflects an underlying factor. As seen in Table 4, CR are ranged between .89-.95 which are in the acceptable range. So Relationship Scale(RS) is acceptable according to construct reliability. Having ensured that a scale instrument meets the necessary levels of reliability, the next step would be the scale validity.

Validity is the extent to which a scale or set of measures accurately represents the concept of interest (Hair et al., 1998; Akt; Nusair and Hua, 2010: 316).

Although there are various forms of validity, this study tested only convergent and discriminant validity (Nusair and Hua, 2010: 316).

Convergent validity assesses the degree to which dimensional measures of the same concept are correlated. High correlations indicate that the scale instrument is measuring its intended construct. Thus, items of the scale instrument should load strongly on their common construct (Byrne,1994; Akt; Nusair and Hua, 2010: 316). The average variance extracted (AVE) as suggested by Fornell and Larcker (1981), Hair et al. (1998), and Chau and Lai (2003) was used to assess convergent validity (Akt; Nusair and Hua, 2010: 318).

Average variance extracted (AVE), is the variance extracted estimate, which measures the amount of variance captured by a construct in relation to the variance due to random measurement error (Fornell and Larcker, 1981;<http://zencaroline.blogspot.com/2007/06/compositereliability.html>. Accessed:03.09.2010). Its formulation is as follows:

$$= (\text{sum of squared standardized loading} / \text{sum of squared standardized loading} + \text{sum of indicator measurement error--sum of the variance due to random measurement error in each loading=1 minus the square of each loading})$$

Higher variance extracted values denote that the indicators are truly representative of the latent construct. Guidelines suggest that the average variance extracted value should exceed 0.50 for a construct (Hair et al., 1998; Akt; Nusair and Hua, 2010: 318; Hui, 2003; Akt; Ayyıldız, Cengiz ve Ustasüleyman, 2006). As shown in Table 4, AVE is ranged between .43-.60, which is below .50. So Relationship Scale(RS) is acceptable according to construct validity. CFA is renewed after eliminating 16th item which has the lowest factor load. So CR and AVE analysed again.

As shown in Table 4, the overall fit indices for the proposed/based model were acceptable, with $\chi^2/df = 44.48/19 = 2.34$, NNFI=.98, CFI=.98, AGFI=.95, GFI=.97, IFI=.98, RMSEA=.058. All the above fit indices for the initial CFA model indicated an acceptable fit.

Fit indices of the scale with 8 items and two factors were found to meet all the values. As seen in the Table 4 CR is between .80-.91 and AVE is between .57-.60. So the last version of the scale is acceptable according to construct validity.

Table 5.
Relationship Scale

Items	(CFA)****	Mean	SS	t-Value	Item-Total Correlations
RS	Standardized loadings				
RA					
2.	.77	3,17	1,26	17.41	.751**
3.	.76	3,22	1,26	17.26	.732**
6.	.77	3,12	1,18	17.60	.727**
7.	.80	3,09	1,18	18.46	.757**
8.	.77	3,04	1,28	17.52	.731**
RR					
10.	.75	3,18	1,10	16.36	.693**
12.	.78	3,15	1,17	17.27	.734**
13.	.74	3,01	1,09	15.95	.722**

**Correlation is significant at the 0.01 level (2-tailed).

Mean and the standard deviation of the items are shown in Table 5. Mean of the all items are over the middle score (3). Total-item correlations of factors were examined for level of internal consistency for scale. Item analysis is conducted which emphasize the item-total correlation (the correlation of each item with total scale score). It is known that if the correlation of total scale score and each item's score is high it is the evidence of item validity. In the literature it is noted that item-total correlation coefficients could be positive and over .25 (Kalaycı, 2006).

Item-total correlation of the scale is seen Table 5 and all of them are .25. Median of them is .74 which is high and acceptable. The item-total correlations for the eleven Relationship Scale (RS) in RA items were between .73 and .75; RR items were between .69 and .73. So Relationship Scale (RS) has a good level of internal consistency.

Discriminant validity is the degree to which conceptually similar concepts are distinct. The measures of theoretically different constructs should have low correlations with each other. Therefore, a low cross-construct correlation is an indication of discriminant validity (Nusair and Hua, 2010: 316). To assess the discriminant validity, the average variance extracted (AVE) for each construct must be greater than the squared correlations between the construct and all other constructs in the model. Table 6 shows high discriminant validity between each pair of constructs (Nusair and Hua, 2010: 318). Relationship Scale (RS) exhibited low discriminant validity from all other constructs. The AVE for RS was 0.54 while the shared variance between RS and other constructs ranged from 0.069 to 0.167, an indication of discriminant validity.

Table 6.
Discriminant validity matrix

Variables	1
1. Relationship Scale (RS)	.54
2. The Satisfaction With Life Scale (SWLS)	.069
3. UCLA Loneliness	.070
4. Societal culture-collectivism	.167

In the **studies on determining criterion validity**, distinguishing validity and validity studies actualized with similar scales were performed. This study depends on comparison of measurement tool and the values obtained from the application of reliable and valid measurement tool over the sample group. In the comparison, significance of correlation coefficient is analysed. It is expected to have high correlation. (Baydur and Eser). For the RS construct validity is found by looking at Pearson correlation. For this aim Societal Culture-Collectivism, the Satisfaction With Life Scale SWLS and UCLA Loneliness scales correlations are analysed

As shown in Table 1, as a result of correlations analysis, The RS has positive correlation Societal Culture-Collectivism. It is a significant positive correlation ($r = .424$, $p = .001$) between RS and the Societal Culture-Collectivism. The RS also has positive correlation with the Satisfaction With Life Scale- SWLS. It is a significant positive correlation ($r = .272$, $p = .001$). The RS has negative correlation with UCLA Loneliness Scale. It is a significant negative correlation ($r = -.247$, $p = .001$) between RS and the UCLA Loneliness Scale. As a conclusion, when the confirmatory factor analysis results were examined, it was identified that fit indices with 8 items and two-factor structure were above the acceptable values. As a result it can be said that RS is a valid and reliable one and could be used in the future studies.

Conclusion and Discussion

In Turkish culture, relationship has a great importance. It is important in both private life and business life. Especially in east part of Turkey relationship is very high. In this study hospitals in Elazığ (in east part of Turkey) is selected to conduct a sample study. Health personnel is questioned for their perceptions about relatives and relations with them. In this study it is found that relationship has positive correlation with satisfaction with life and collectivism. On the other hand relationship has negative and low correlation with loneliness. This result is an expected result since collectivist spirit is opposite of loneliness. Also relationship and collectivist culture effects life satisfaction positively.

The main contribution of this study is development of relationship scale. Reliability and validity of the scale is tested and found high. 2 dimensional scale has 18 questions in total. Relative attachment (RA) dimension has 9 questions and relative responsibility (RR) has 9 questions. Relationship scale is shown below. Original Turkish questions and translation in English is given.

Questions of Relationship Scale

RA (Relative Attachment)
1. I share my joy-happiness with my relatives. (Sevinçlerimi akrabalarım ile paylaşırım).
2. If I am in a hard situation my relatives help me. (Zor durumda kalsam akrabalarım bana yardım eder).
3. I feel relaxed when I am with my relatives. (Akrabalarım ile beraber olduğumda kendimi rahat hissederim).
4. Something are missing if there is not my relatives. (Akrabalarım olmazsa hayatımda bazı şeyler eksik kalır).
5. I talk with my relatives about my own problems. (Sorunlarımı akrabalarım ile konuşurum).
6.I am in communication with my relatives. (Akrabalarım ile iletişim halindeyim).
7.When I need, my relatives are with me. (İhtiyacım olduğunda akrabalarım yanımdadır).
8.I get material and spiritual support from my relatives in hard times.(Zor zamanlarımda akrabalarım dan maddi ve manevi destek alırım).
9.I share my sorrows with my relatives. (Üzüntülerimi akrabalarım ile paylaşırım)
RR (Relative Responsibility)
10. I give support to my relatives to handle their problems.(Akrabalarımın sorunlarının çözümüne katkı yaparım).
11. If my relatives need I can charge my physical facilities for them. (İhtiyaç duymaları durumunda elimdeki maddi imkânları akrabalarım için harcarım).
12. I spend effort not to break kinship ties. (Akrabalık bağlarının kopmaması için çaba harcarım).
13. I should spend time for my relatives work. (Akrabalarımın işleri için zaman ayırmak durumundayım).
14. I feel responsible for my insufficient (financially etc.) relatives to watch over them. (Kendimi, akrabalarım dan ihtiyaç sahibi olanları gözetmek zorunda hissederim).
15. It is my job to help a relative if he/she is in a hard situation. (Akrabalarım dan birisi zor durumda kalsa ona yardım etmek görevimdir).
16. I feel compelled to support my relatives. (Kendimi akrabalarım a destek çıkmaya mecbur hissederim).
17. I can't resist to stay offended to my relatives. (Akrabalarım a asla kırgın kalamam).
18. I am with my relatives in special days, such as festivals, weddings, funerals etc. (Özel günlerde-bayram, düğün, cenaze törenleri vb.- akrabalarım ile birlikteyimdir).

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